

***Listing of the Claims***

Claims 1-42. (cancelled)

43. (currently amended) A composition consisting essentially of a plurality of double-stranded DNA fragments ~~of different lengths~~ ranging in length from about 25 kb to about 100 bases, wherein fragments of each length are present in an amount that produces bands of substantially equal intensity after the composition is separated by gel electrophoresis and stained with a detectable label.

44. (previously presented) A composition according to claim 43, wherein fragments of each length are present in a substantially equal relative mass.

45. (cancelled)

46. (previously presented) A composition according to claim 44, wherein the relative mass of fragments of a first length is no more than 1.5 times the relative mass of fragments of any other second length.

47. (cancelled)

48. (previously presented) A composition according to claim 43, wherein said fragments range in length from about 20 kb to about 100 bases.

49. (previously presented) A composition according to claim 43, wherein said fragments range in length from about 12 kb to about 100 bases.

50. (previously presented) A composition according to claim 43, wherein said fragments are of lengths selected from the group of nucleic acid fragment lengths consisting of about 12,000 basepairs, about 11,000 basepairs, about 10,000 basepairs, about 9,000 basepairs, about 8,000 basepairs, about 7,000 basepairs, about 6,000 basepairs, about 5,000 basepairs, about 4,000 basepairs, about 3,000 basepairs, about 2,000 basepairs, about 1,650 basepairs, about 1,000 basepairs, about 850 basepairs, about 650 basepairs, about 500 basepairs, about 400 basepairs, about 300 basepairs, about 200 basepairs, and about 100 basepairs.

51. (cancelled)

52. (previously presented) A composition according to claim 43, comprising fragments that differ in length by increments of about 1,000 basepairs.

53. (previously presented) A composition according to claim 43, comprising fragments that differ in length by increments of about 100 base pairs.

54. (previously presented) A composition according to claim 43, comprising both fragments that differ in length by increments of about 1,000 basepairs and fragments that differ in length by increments of 100 basepairs.

55. (previously presented) A composition according to claim 43, wherein the detectable label is ethidium bromide or SYBR green.

56. (previously presented) A composition according to claim 43, further comprising a dye.

57. (previously presented) A composition according to claim 56, wherein the dye is selected from the group consisting of bromophenol blue, xylene green, and mixtures thereof.

58. (cancelled)

59. (previously presented) A kit comprising the composition of claim 43.

60. (previously presented) A kit comprising the composition of claim 54.

61. (previously presented) A kit comprising the composition of claim 57.

62. (cancelled)

63. (currently amended) A composition consisting essentially of a plurality of double-stranded DNA fragments ~~of different lengths~~ ranging in length from about 25 kb to about 100 bases, wherein fragments of each length are present in an amount that produces bands of substantially equal intensity after the composition is separated by gel electrophoresis and stained with a detectable label, and further consisting essentially of an additional single fragment having a relative mass greater than 3 times the relative mass of said bands of substantially equal intensity.

64. (previously presented) A kit comprising the composition of claim 63.